#### What is claimed is:

- 1. A composition for the treatment or prevention of obesity, wherein the composition comprises at least one dibenzo-p-dioxine derivative with inhibition activity against diacyglycerol acyl transferase.
- 2. The composition of claim 1, wherein the dibenzo-p-dioxine derivative or derivatives are selected from the group consisting of:

### [Formula I]

#### [Formula II]

# [Formula V]

# [Formula VI]

#### [Formula IX]

### [Formula X]

- 3. The composition of claim 2, wherein each R is H.
- 4. The composition of claim 2, wherein the composition comprises one or more of (a)-(j):
  - (a) 0.1-6wt% of the dibenzo-p-dioxin derivative of Formula I;
  - (b) 5-60 wt% of the dibenzo-p-dioxin derivative of Formula II;
  - (c) 1-30 wt% of the dibenzo-p-dioxin derivative of Formula III;
  - (d) 0.5-20 wt% of the dibenzo-p-dioxin derivative of Formula IV;
  - (e) 0.1-10 wt% of the dibenzo-p-dioxin derivative of Formula V;
  - (f) 0.5-15 wt% of the dibenzo-p-dioxin derivative of Formula VI;

- (g) 0.1-5 wt% of the dibenzo-p-dioxin derivative of Formula VII;
- (h) 0.1-5 wt% of the dibenzo-p-dioxin derivative of Formula VIII;
- (i) 0.1-10 wt% of the dibenzo-p-dioxin derivative of Formula IX; or
- (j) 0.1-12 wt% of the dibenzo-p-dioxin derivative of Formula X.
- 5. The composition of claim 1, wherein the dibenzo-p-dioxine derivative or derivatives are extracted from brown alga.
- 6. The composition of claim 5, wherein the brown alga is selected from the group consisting of: Eisenia bicyclis, Eisenia arborea, Eisenia desmarestioides, Eisenia galapagensis, Eisenia masonii, Ecklonia kurome, Ecklonia cava, Ecklonia stolonifera, Ecklonia maxima, Ecklonia radiata, Ecklonia bicyclis, Ecklonia biruncinate, Ecklonia buccinalis, Ecklonia caepaestipes, Ecklonia exasperta, Ecklonia fastigiata, Ecklonia brevipes, Ecklonia arborea, Ecklonia latifolia, Ecklonia muratii, Ecklonia radicosa, Ecklonia richardiana, and Ecklonia wrightii.
- 7. The composition of claim 1, wherein the composition is administered in a daily dosage of 1-100mg/Kg.
- 8. The composition of claim 7, wherein the composition is in the form of a dietary supplement.
- 9. The composition of claim 8, wherein the dietary supplement is in the form of a beverage, a bar, or a bread.
- 10. The composition of claim 1, wherein the composition is in the form of capsule or tablet.
- 11. The composition of claim 8, wherein the dietary supplement is in the form of a capsule or tablet.

- 12. A composition for the treatment or prevention of cardiovascular or coronary artery disease, wherein the composition comprises at least one dibenzo-p-dioxine derivative with inhibition activity against diacyglycerol acyl transferase.
- 13. The composition of claim 12, wherein the dibenzo-p-dioxine derivative or derivatives are selected from the group consisting of:

[Formula III]

# [Formula V]

# [Formula VI]

#### [Formula IX]

#### [Formula X]

- 14. The composition of claim 13, wherein each R is H.
- 15. The composition of claim 13, wherein the composition comprises one or more of (a)-(j):
  - (a) 0.1-6wt% of the dibenzo-p-dioxin derivative of Formula I;
  - (b) 5-60 wt% of the dibenzo-p-dioxin derivative of Formula II;
  - (c) 1-30 wt% of the dibenzo-p-dioxin derivative of Formula III;
  - (d) 0.5-20 wt% of the dibenzo-p-dioxin derivative of Formula IV;
  - (e) 0.1-10 wt% of the dibenzo-p-dioxin derivative of Formula V;
  - (f) 0.5-15 wt% of the dibenzo-p-dioxin derivative of Formula VI;

- (g) 0.1-5 wt% of the dibenzo-p-dioxin derivative of Formula VII;
- (h) 0.1-5 wt% of the dibenzo-p-dioxin derivative of Formula VIII;
- (i) 0.1-10 wt% of the dibenzo-p-dioxin derivative of Formula IX; or
- (j) 0.1-12 wt% of the dibenzo-p-dioxin derivative of Formula X.
- 16. The composition of claim 12, wherein the dibenzo-p-dioxine derivative or derivatives are extracted from brown alga.
- 17. The composition of claim 16, wherein the brown alga is selected from the group consisting of: Eisenia bicyclis, Eisenia arborea, Eisenia desmarestioides, Eisenia galapagensis, Eisenia masonii, Ecklonia kurome, Ecklonia cava, Ecklonia stolonifera, Ecklonia maxima, Ecklonia radiata, Ecklonia bicyclis, Ecklonia biruncinate, Ecklonia buccinalis, Ecklonia caepaestipes, Ecklonia exasperta, Ecklonia fastigiata, Ecklonia brevipes, Ecklonia arborea, Ecklonia latifolia, Ecklonia muratii, Ecklonia radicosa, Ecklonia richardiana, and Ecklonia wrightii.
- 18. The composition of claim 13, wherein the composition is administered in a daily dosage of 1-100mg/Kg.
- 19. The composition of claim 18, wherein the composition is in the form of a dietary supplement.
- 20. The composition of claim 19, wherein the dietary supplement is in the form of a beverage, a bar, or a bread.
- 21. The composition of claim 12, wherein the composition is in the form of capsule or tablet.
- 22. The composition of claim 19, wherein the dietary supplement is in the form of a capsule or tablet.

- 23. A method of treating or preventing obesity, comprising administering a composition comprising at least one dibenzo-p-dioxine derivative with inhibition activity against diacyglycerol acyl transferase to a subject in need thereof.
- 24. The method of claim 23, wherein the dibenzo-p-dioxine derivative or derivatives are selected from the group consisting of:

# [Formula V]

# [Formula VI]

#### [Formula IX]

#### [Formula X]

- 25. The method of claim 24, wherein each R is H.
- 26. The method of claim 24, wherein the composition comprises one or more of (a)-(j):
  - (a) 0.1-6wt% of the dibenzo-p-dioxin derivative of Formula I;
  - (b) 5-60 wt% of the dibenzo-p-dioxin derivative of Formula II;
  - (c) 1-30 wt% of the dibenzo-p-dioxin derivative of Formula III;
  - (d) 0.5-20 wt% of the dibenzo-p-dioxin derivative of Formula IV;

- (e) 0.1-10 wt% of the dibenzo-p-dioxin derivative of Formula V;
- (f) 0.5-15 wt% of the dibenzo-p-dioxin derivative of Formula VI;
- (g) 0.1-5 wt% of the dibenzo-p-dioxin derivative of Formula VII;
- (h) 0.1-5 wt% of the dibenzo-p-dioxin derivative of Formula VIII;
- (i) 0.1-10 wt% of the dibenzo-p-dioxin derivative of Formula IX; or
- (j) 0.1-12 wt% of the dibenzo-p-dioxin derivative of Formula X.
- 27. The method of claim 23, wherein the dibenzo-p-dioxine derivative or derivatives are extracted from brown alga.
- 28. The method of claim 27, wherein the brown alga is selected from the group consisting of: Eisenia bicyclis, Eisenia arborea, Eisenia desmarestioides, Eisenia galapagensis, Eisenia masonii, Ecklonia kurome, Ecklonia cava, Ecklonia stolonifera, Ecklonia maxima, Ecklonia radiata, Ecklonia bicyclis, Ecklonia biruncinate, Ecklonia buccinalis, Ecklonia caepaestipes, Ecklonia exasperta, Ecklonia fastigiata, Ecklonia brevipes, Ecklonia arborea, Ecklonia latifolia, Ecklonia muratii, Ecklonia radicosa, Ecklonia richardiana, and Ecklonia wrightii.
- 29. The method of claim 23, wherein the composition is administered in a daily dosage of 1-100mg/Kg.
- 30. The method of claim 29, wherein the composition is in the form of a dietary supplement.
- 31. The method of claim 30, wherein the dietary supplement is in the form of a beverage, a bar, or a bread.
- 32. The method of claim 23, wherein the composition is in the form of capsule or tablet.
- 33. The method of claim 30, wherein the dietary supplement is in the form of a capsule or tablet.

- 34. A method for the treatment or prevention of cardiovascular or coronary artery disease, comprising administering a composition comprising at least one dibenzo-p-dioxine derivative with inhibition activity against diacyglycerol acyl transferase to a subject in need thereof.
- 35. The method of claim 34, wherein the dibenzo-p-dioxine derivative or derivatives are selected from the group consisting of:

### [Formula II]

# [Formula V]

# [Formula VI]

#### [Formula IX]

### [Formula X]

- 36. The method of claim 35, wherein each R is H.
- 37. The method of claim 35, wherein the composition comprises one or more of (a)-(j):
  - (a) 0.1-6wt% of the dibenzo-p-dioxin derivative of Formula I;
  - (b) 5-60 wt% of the dibenzo-p-dioxin derivative of Formula II;
  - (c) 1-30 wt% of the dibenzo-p-dioxin derivative of Formula III;
  - (d) 0.5-20 wt% of the dibenzo-p-dioxin derivative of Formula IV;
  - (e) 0.1-10 wt% of the dibenzo-p-dioxin derivative of Formula V;

- (f) 0.5-15 wt% of the dibenzo-p-dioxin derivative of Formula VI;
- (g) 0.1-5 wt% of the dibenzo-p-dioxin derivative of Formula VII;
- (h) 0.1-5 wt% of the dibenzo-p-dioxin derivative of Formula VIII;
- (i) 0.1-10 wt% of the dibenzo-p-dioxin derivative of Formula IX; or
- (j) 0.1-12 wt% of the dibenzo-p-dioxin derivative of Formula X.
- 38. The method of claim 34, wherein the dibenzo-p-dioxine derivative or derivatives are extracted from brown alga.
- 39. The method of claim 38, wherein the brown alga is selected from the group consisting of: Eisenia bicyclis, Eisenia arborea, Eisenia desmarestioides, Eisenia galapagensis, Eisenia masonii, Ecklonia kurome, Ecklonia cava, Ecklonia stolonifera, Ecklonia maxima, Ecklonia radiata, Ecklonia bicyclis, Ecklonia biruncinate, Ecklonia buccinalis, Ecklonia caepaestipes, Ecklonia exasperta, Ecklonia fastigiata, Ecklonia brevipes, Ecklonia arborea, Ecklonia latifolia, Ecklonia muratii, Ecklonia radicosa, Ecklonia richardiana, and Ecklonia wrightii.
- 40. The method of claim 34, wherein the composition is administered in a daily dosage of 1-100mg/Kg.
- 41. The method of claim 40, wherein the composition is in the form of a dietary supplement.
- 42. The method of claim 41, wherein the dietary supplement is in the form of a beverage, a bar, or a bread.
- 43. The method of claim 34, wherein the composition is in the form of capsule or tablet.
- 44. The method of claim 41, wherein the dietary supplement is in the form of a capsule or tablet.